ISO/IEC JTC1/SC2/WG2 N4634
Date: 2014-09-30

Title: Proposal to encode Small Seal Script in UCS
Source: TCA and China
Action: For consideration by JTC1/SC2/WG2

This document proposes to encode 10,516 Small Seal Script characters in UCS.

Note: This document shows 799 of 10,516 characters, with TrueType fonts. The fonts of remaining ones will be provided later. The 799 characters in this document are selected from Volume 1 of the 14 volumes Tenghuaxie version *Shuowen Jiezi* (14 卷藤花榭本說文解字).

1. Small Seal Script and the Book *Shuowen Jiezi*

The Small Seal script (小篆) is a kind of ancient Chinese script, predecessor of modern Chinese (漢字, Hanzi). The book *Shuowen Jiezi* (說文解字), edited by Xu Shen (許慎, 58 AD to 147 AD), collects the Small Seal characters of Qin Dynasty (秦, 220 BC to 206 BC) of China. The collection contains 9,353 canonical Small Seal characters, 1163 variants (called “Chongwen” in *Shuowen Jiezi*). Chongwen contains Zhouwen (籀文, Small Seal script in Zhou Dynasty, 周 1046 BC to 256 BC) and Guwen (古文, the scripts used in the other six nations excluding Qin in the Warring States period, 475 BC to 221 BC) which are incompatible with Small Seal characters.

There were two types of publicly accepted scripts prevailing in Qin Dynasty, canonical Small Seal script and clerical script which was used by the public (known as Qin Li in philology, also named Gu Li to distinguish from subsequent Han Li). Some people think Small Seal script is a calligraphy typeface, which is a misunderstanding. The Small Seal script in book *Shuowen Jiezi* is considered a character set of a historical stage in the development of ancient characters, like Oracle Bone script, Bronze inscriptions and Warring States scripts, it does not belong to the same system as the modern Hanzi does. In addition, a large number of Small Seal script characters cannot be mapped to modern standard Hanzi characters in form of shapes one by one; although some shapes can be mapped, the Small Seal ones have unique structures different to their counterparts in modern Hanzi. So, the Small Seal script shall not be regarded as a typeface of modern Hanzi pertaining to standard Hanzi script, thus it should be encoded independently in UCS.

The Small Seal script in book Shuowen Jiezi plays an important role in the development of Hanzi, and gives a distinctive value to the study and collating of ancient characters:

A. The Small Seal script of Qin Dynasty is the final stage of the development of ancient Hanzi characters, covering a complete structure model of pre-Qin ancient

characters since Oracle bone inscriptions, and relates to the main components of the ancient characters, and had become a required reference character set for doing textual research on and collating ancient Hanzi characters.

B. The Small Seal script characters in book *Shuowen Jiezi* are closely related to Zhou classic literatures of Zhou Dynasty, and the configuration of the characters can be explained by the meanings of the classic literatures; not only does it show the feature of the ideographic Chinese characters, but it also provides the method of composing modern characters since the period of official scripts. Chinese characters are interpreted in accordance with the book *Shuowen Jiezi* in current teaching.

C. Having strictly collated and removed unnecessary glyphs, the Small Seal script in book *Shuowen Jiezi* buids a complete system of configuration. The characters are distributed in sequence according to their sub classes, under 540 main classes of radicals. Currently, ancient Hanzi characters are collated on the basis of the radical and character order of book *Shuowen Jiezi*.

D. The 540 radicals summarized in the book *Shuowen Jiezi* cover all forms and meanings of Chinese characters, are called structural radicals with theoretical values. The 214 radicals of Kanxi Zidian (康熙字典, Kangxi Dictionary) of Qing Dynasty (清 1644 to 1911) were created on the basis of simplifying and combining those 540 radicals. Such combination ignores the distinguishing feature of the united form and meaning of ideographic characters, they are merely suitable for a checking purpose, and are theoretically inadequate, the 540-radical is a more complete radical system.

2. Selection of Original Materials

The book *Shuowen Jiezi* was completed in Eastern Han Dynasty (東漢 25 to 220). After a long period of circulation, some of the original contents were changed. In Song Dynasty (宋 960 to 1279), Xu Xuan (徐鉉) was ordered by the Emperor to make a complete collation of the publication. He restored the contents and got its original glyphs. This book is known as "Daxu Ben (大徐本, the version of Big Xu)" while the book collated by his younger brother Xu Kai (徐鍇) is known as "Xiaoxu Ben (小徐本, the version of Little Xu)". The "Daxu Ben" *Shuowen Jiezi* is recognized as a specification version. It was followed as major and principal reference when character glyphs were selected and ordered for this proposal.

There are 3 most popular versions of *Daxu Ben Shuowen Jiezi*: Tenghuaxie version (額勒布藤花榭本), Pingjinguan version (孫星衍平津館本) and Chen Changzhi version (陳昌治單行本, revised in accordance with Pingjinguan version). Both Tenghuaxie version and Pingjinguan version were made following original Song Dynasty printed books, while Pingjinguan version was revised. To retain the original contents as much as possible, Tenghuaxie version was selected first when the proposal was drafted.

Duan Yucai (段玉裁), a leading expert in *Shuowen Jiezi* research in Qing Dynasty, collated *Daxu Ben* and *Xiaoxu Ben*, corrected some glyphs according to the examples of *Shuowen Jiezi* itself and adjusted partial ordering of characters. His work is

reflected in the book *Shuowen Jiezi Zhu* （*Annotations for the book Shuowen Jiezi*, abbreviated as *Duan Zhu*）, and is an important basis for people now to learn *Shuowen Jiezi*. The different information between *Daxu Ben* and *Duan Zhu* was preserved based on *Daxu Ben* when the proposal was drafted.

3. Rules and Principles

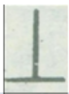
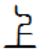
3.1. Ordering

(1) Characters are ordered based on the radical sequence and the arrangement order of the characters within the radical of Tenghuaxie version.

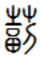
(2) Characters from Duan Zhu or Chen Changzhi version are ordered as as follows:

a. Additional variant characters of each version are placed in order, placed behind the corresponding canonical Small Seal script (正篆) and the original Chongwen（重文）:

Volume 1.

00007		00706		正篆		加于00007与00008之间，段注作	
00008		007061		重文			

Volume 1.

00262		015041		重文		加于00262与00263之间，段注作	

Volume 1.

00644		02430		正篆		加于00644与00645之间，段注作	

b. Newly added Small Seal Script characters by Xu Xuan (徐鉉) are placed at the end of other Small Seal characters with the same radicals.

c. Components or component variants need to be supplemented.

① If the component does not correspond to a Small Seal script, place it behind the newly added Small Seal Scripts.

Example: Volume 7，04671 . “免” is not included in Tenghuaxie version. So it is necessary to give a form behind “免” in volume 10. [1]

06873		20322			正篆			
06874		20323			正篆			
x262		20324			正篆	加于X262与06875之间，按段注作		段补篆（《说文》多有从免之字）

② If the component has a corresponding Small Seal shape, it is a variant and should be placed behind the corresponding Small Seal shape.

Example: Volume 3，02272 . An explanation of “昏” was given in volume 7 of *Shuowen Jiezi*, meaning “voice of the people[2]”。Add a variant to “昏”

02272		06914			正篆			昏下加变体昬
04672		13820			正篆	加于04672与04673之间，按02272作		一曰民聲。段注：昏不從民聲，所有“昬”改爲“昏”

01581 of volume 3。In Tenghuaxie version, “世” is written as or (this is more common), so add a variant to “世”.

01581		05105			正篆	加于01581与01582之间，部件变体		参加卷二01287“迣”

---

2 Duanzhu: not follow the voice of people. All components of “昬” are changed to “昏”.

3.2. Character Selection

（1）All canonical Small Seal characters (正篆), variants characters (重文) and newly added Small Seal characterss of Tenghuaxie version are to be included.

（2）Characters that have different structures in *Duan Zhu* and *Chen Changzhi version* are to be supplemented. (Such as “虉”.)

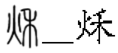
（3）All components and their variants that are not included in the above two versions are to be supplemented. (Such as the aforementioned“免”and“世”)

3.3. The character shapes

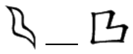
Characters from *Tenghuaxie version* shall have shapes consistent with their original forms in *Tenghuaxie version*. Added characters and component variants shall have shapes consistent with their original forms. No purposed adjustment or re-construction.

4.4. Principles for transferring Old Hanzi to modern Hanzi

(1) Use descriptive glyph as the first corresponding glyph.

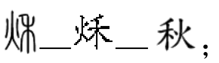
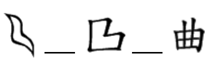
a. Follow the original component position, for example: ;

b. Follow the original conversion of line to stroke, for example:



c. Follow the original form of Li glyph, for example: 

(2) If there is a corresponding natural script-evolution standard script, it should be used as a secondary corresponding glyph。For example:

;  Guwen ;  Zhouwen

This proposal is drafted by:

李鋆(Li Xian)、蔡信發(Tsai Xin Fa)、季旭昇(Chi hsiu Sheng)、許學仁(Hsu Xue Jen)、宋建華(Sung Chien Hua)、袁國華(Yuen Kwok Wa)、魏林梅(Wei Lin Mei)、蔡仁瑛(Tsai Jen Ying)、莊素琴（Huang Suh Chyin）
王寧 (Wang Ning)、王立軍(Wang Lijun) 、王曉明(Wang Xiaoming) 、胡佳佳(Hu Jiajia) 、卜師霞(Bu Shixia) 、凌麗君(Ling Lijun) 、孟琢(Meng Zhuo) 、董婧宸(Dong Jingchen)

5. 799 of 10,516 Small Seal Script characters

第一卷(Volume 1)



瓊 璚 瓗 琁 珦 璓 珣 璐 瓚 琜 瓅

珛 玉 瑜 琡 叡 璿 球 璆 琳 璧 瑗

環 璜 琮 瑀 瓏 琬 璋 琰 玠 瑒 瓘

珽 瑁 珇 玥 璥 珧 玳 瑞 珥 瑱 頊

璹 珝 琿 琭 玿 琢 珇 瓌 琪 琛 瑬

琦 瓃 瑳 玼 璣 璙 瑩 璊 玟 瑕 琍

瑀 理 珍 玩 貦 玲 瑲 玠 琊 瑣 瑝

琥 玤 玪 瓡 琚 瑧 玖 琄 現 瑍 璅

璲 璔 璁 瓛 瓍 璺 瓔 玽 琣 璶 琟

琝 琑 璒 玌 玗 琨 瑫 碧 璟 瓄 珉

瑤 珠 玓 瓅 瓜 璸 瑙 玔 玭 玟 瑰

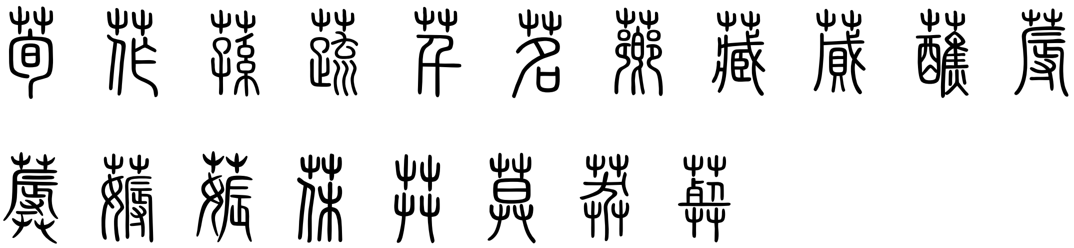
璪 珢 玕 琂 珊 瑚 琠 琀 彭 璗 靈











6. Proposal summary form to accompany submissions

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[3]
Please fill all the sections A, B and C below.
Please read Principles and Procedures Document (P & P) from http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html **for guidelines and details before filling this form.**
Please ensure you are using the latest Form from http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html.
See also http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html **for latest *Roadmaps*.**

A. Administrative

1. **Title:**	**Proposal to encode Small Seal Script in UCS**
2. Requester's name:	*TCA and China*
3. Requester type (Member body/Liaison/Individual contribution):	Liaison and Member body
4. Submission date:	*2014-09-30*
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	*Yes*
(or) More information will be provided later:	

[3] Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

B. Technical – General

1. Choose one of the following:

a. This proposal is for a new script (set of characters): *Yes*

Proposed name of script: **Small Seal Script**

b. The proposal is for addition of character(s) to an existing block: *No*

Name of the existing block:

2. Number of characters in proposal: *10,516*

3. Proposed category (select one from below - see section 2.2 of P&P document): *B*

A-Contemporary		B.1-Specialized (small collection)		B.2-Specialized (large collection)	
C-Major extinct		D-Attested extinct		E-Minor extinct	
F-Archaic Hieroglyphic or Ideographic				G-Obscure or questionable usage symbols	

4. Is a repertoire including character names provided?____ *No*

a. If YES, are the names in accordance with the "character naming guidelines"

in Annex L of P&P document?____

b. Are the character shapes attached in a legible form suitable for review?____________________ *Yes*

5. Fonts related:

a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?

TCA and related organizations

b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):

Already agreed with all TCA 、 *Experts and related organizations*

6. References:

a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? *Yes, see attached PDF file*

b. Are published examples of use (such as samples from newspapers, magazines, or other sources)

of proposed characters attached? *Yes*

7. Special encoding issues:

Does the proposal address other aspects of character data processing (if applicable) such as input,

presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? *No*

. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at http://www.unicode.org for such information on other scripts. Also see Unicode Character Database (http://www.unicode.org/reports/tr44/) and associated Unicode Technical Reports for information needed for consideration by

the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	*No*
If YES explain	
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?	*No*
If YES, with whom?	*Experts of Small Seal, Education, Publishing Industry and seals.*
If YES, available relevant documents:	
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?	*No*
Reference:	*Evidence of use of these characters were reviewed by experts of Small Seal at the time of submission for Inclusion*.
4. The context of use for the proposed characters (type of use; common or rare)	*Common*
Reference:	*Widely used in community of Hanzi users for seals, books, decorations, etc..*
5. Are the proposed characters in current use by the user community?	
If YES, where? Reference:	Education, *Publishing Industry and Stamp industry*
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	*No*
If YES, is a rationale provided?	
If YES, reference:	
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	*Yes*
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	*No*
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	*No*
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character?	*No*
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
11. Does the proposal include use of combining characters and/or use of composite sequences?	

If YES, is a rationale for such use provided?	*No*
If YES, reference:	
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?	
If YES, reference:	
12. Does the proposal contain characters with any special properties such as	
control function or similar semantics?	*No*
If YES, describe in detail (include attachment if necessary)	
13. Does the proposal contain any Ideographic compatibility characters?	*No*
If YES, are the equivalent corresponding unified ideographic characters identified?	
If YES, reference:	

7. Evidence: Small Seal used in daily life

7.1 Stamp / Signet Usage



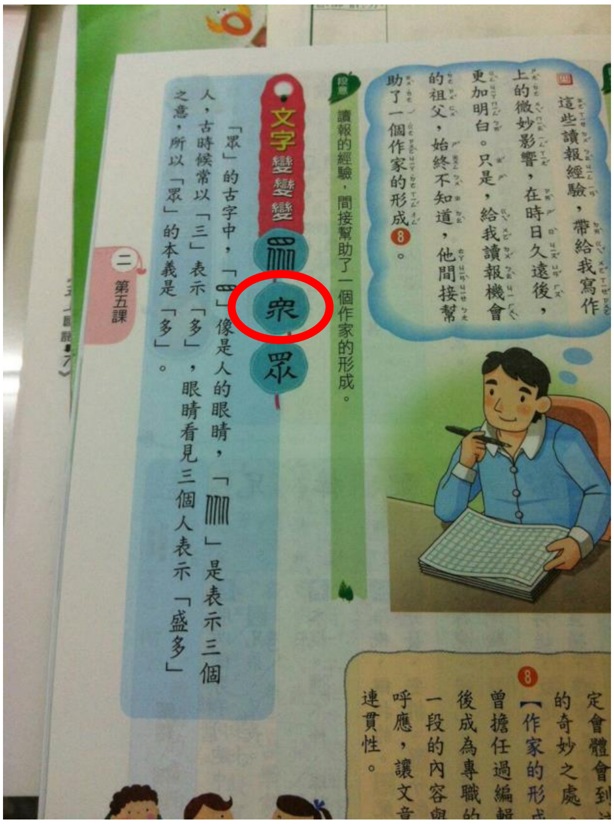


5.2 Elementary School Teaching

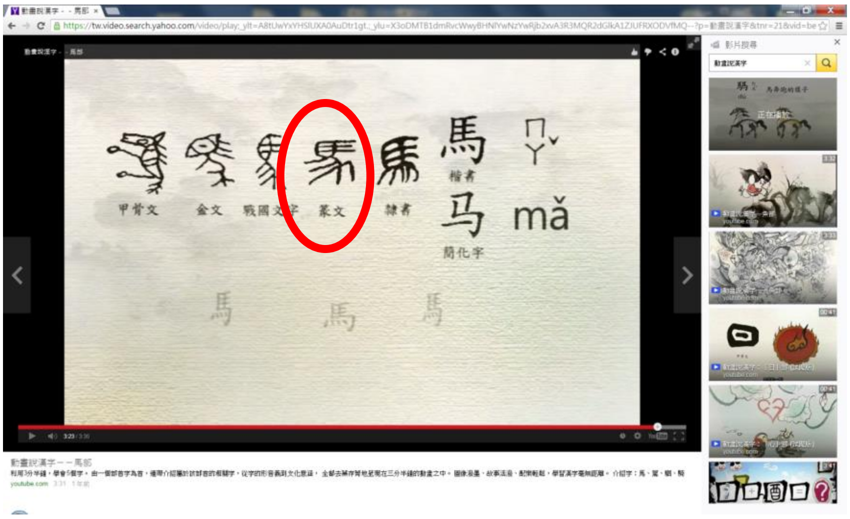


(1) Students practiced in writing Small Seal

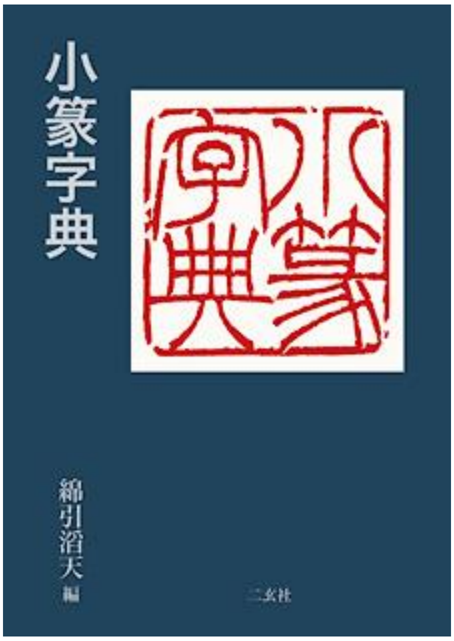
（2）Lesson 5 of Elementary Textbook Grade 2

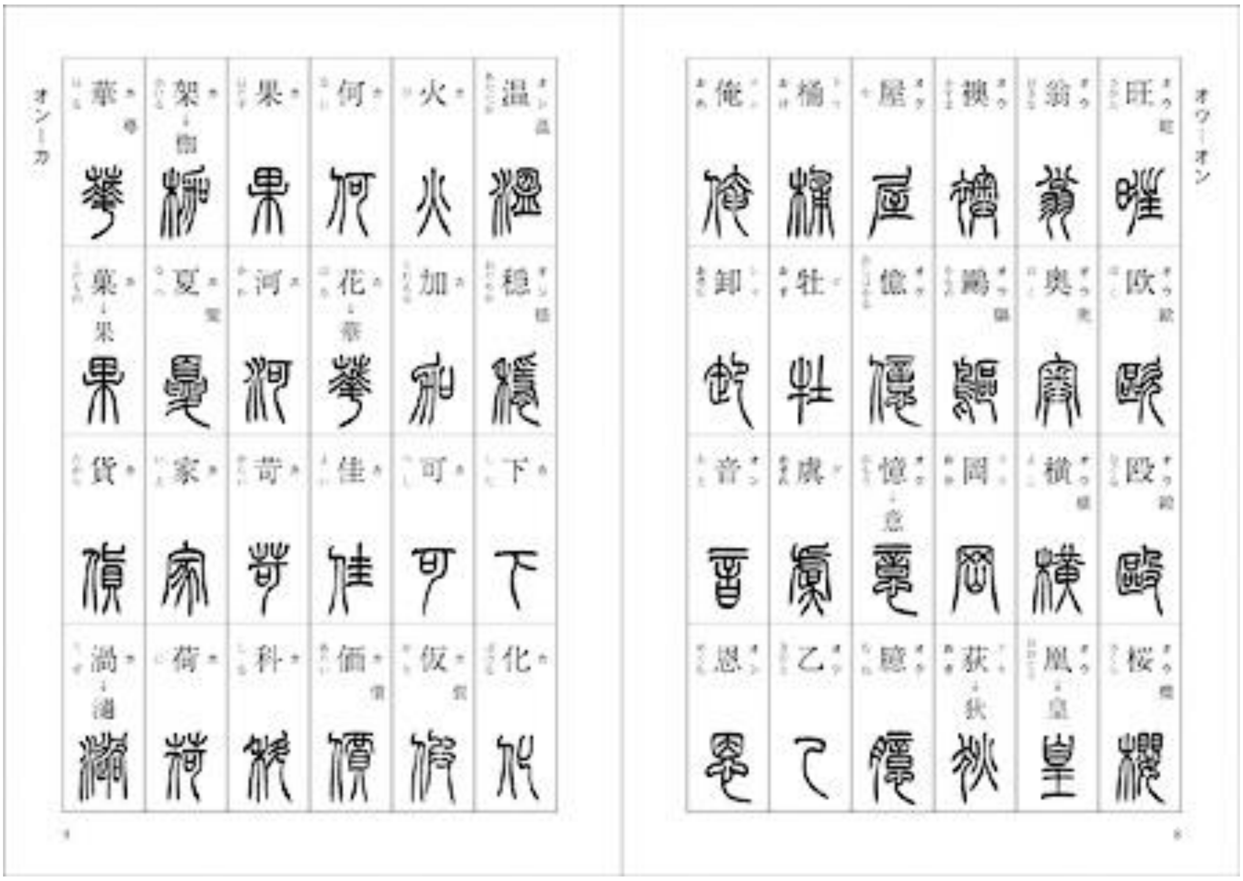


5.3、Film : Chinese Words Teaching Film



5.4 Dictionary





End of Document-